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The Internationalism and Universality of Science

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IN the present period of nationalistic technology, it is difficult to realize that science is the only branch of intellectual discipline which respects its responsibilities to both the past and the future. Its responsibilities to the past are those which have resolved from the collection of the knowledge of the past, much of which is now embodied in the mass of material which constitutes the rubric of science. Much early scientific knowledge evolved in the Middle East which is now in strange political disunity with the rest of the world. We owe much to the Babylonian, the Persian, and the Egyptian cultures.

The body of scientific knowledge built up over the years gave the incentive for the founding of our modern universities which, from the outset, have been international in their attitude and in their personnel. Students were drawn from various nationalities and the national associations were maintained in an international atmosphere. Alexandria was an important center where information of earlier times was gathered. Later Montpellier, Bologna, Paris, Oxford, and Cambridge became repositories of information to be used in the furtherance of pure science. The general principles so preserved were reworked in

such form that they became readily available to applied technology in meeting modern social needs.

Nearly three hundred years ago, in the period known as the revival of learning or the intellectual renaissance, there arose two institutions destined to have a marked influence upon the international character of science, the French Academy of Science and The Royal Society of London. At that time there were no typewriters, no television, no radio, and the few newspapers in existence were devoted chiefly to items of dominant political interest. Publication was at a minimum and most of the communications received by the French Academy or The Royal Society were written by pen. Handwritten letters to the secretaries of these societies from the scientists of the period frequently contained the first news of outstanding contributions to science. For example, various people wrote from Sweden and Norway concerning lens design which ultimately led to the development of the microscope and the telescope; announcements of discoveries concerning microscopic organisms poured into the French Academy and The Royal Society from Holland, Germany, and Austria. These contributions were then read to the

members of the societies and were soon widely disseminated.

With the development of printing and improvement in the means of transport, scientific information began to receive wide dissemination. Journals dedicated to particular branches of science now carry information to large numbers of individuals in nearly every country. Science aims to give its discoveries universal distribution: there is no withholding of major premises, no withholding of the mechanisms and methods employed in testing hypotheses—these are open property. Placing your own thoughts before your fellow scientists so that they can evaluate them and test them in their own way furthers the ends of science and gives assurance that science will remain international in scope, international in its ideas, and international in its dissemination of ideas.

Scientists form an intimate group because they have common interest in a field of thought which is universally disseminated and tested. In the laboratories where they work together they become well acquainted. The man who works across the bench from you is well known to you. You may not like all of his characteristics, but you do speak with him, you have a knowledge of his eccentricities, you have a knowledge of his good points. You know whether he is doing good work or shoddy. All of these things enter into your evaluation of the man and his work.

Community of understanding is perhaps best accomplished by bringing people together in our various laboratories. Men come from all over the world to study in American laboratories. These men carry back with them American ideals as well as scientific ideas. The professor of anatomy from the University of Bologna, a recent visitor in the Osborn Zoological Laboratory at Yale University, will take back new ideas and word of new discoveries. He will disseminate this knowledge to his students and to others in his immediate surroundings. He will report the changes which have occurred since his last visit here and will tell his associates how our customs have altered. All of these things help to develop international understanding.

Some laboratories are professionally international in character: the International Computation Center which has been established through the efforts of UNESCO; the astronomical laboratories, some in America, some in South Africa, some in middle Europe; the neurological laboratories at Amsterdam; the zoological station at Naples; the International Institute of Embryology at Utrecht. In such workshops, men interested in a single part of the field of science work together and live together. They learn how far they can depend upon one another and the feelings so generated are those upon which lasting friendships are built. The results of studies carried on in these international laboratories sooner or later are incorporated in contributions to science and are disseminated by means of numerous publications.

Another mechanism for developing friendships and for bringing about a more intelligent appreciation of the problems of other peoples is the international congress, where scientists from various countries assemble to report on their research work, to exchange ideas, and to discuss common problems. At meetings of this nature, frequently attended by several hundred individuals, there is always time outside of the scheduled scientific sessions for the specialists to visit over the dinner table or at the bar and to hold informal conferences which bring them into a much broader relationship than do the formal discussions within a single field of scientific endeavor.

There is still another device by which people of different countries are brought into contact with one another, and that is the international symposium. Since World War II numerous gatherings of this nature have been conducted under generous sponsorship of our philanthropic foundations. These symposia generally include only twenty to thirty individuals who live together for a period of two or three weeks, present their views to each other, and explain the logic and experimentation behind the various theses which they advance. In all cases one is assured of discussion on subjects of general interest which take the participants far afield into such topics as living standards of the people, conditions of human rights, nationalistic movements,

freedom of speech, and all sorts of problems only distantly associated with science and yet inseparably bound up with it.

One can easily see that nationalism is nonexistent in the realm of science since scientific knowledge must be universal in its dissemination and its application. Facts which are discovered in America are in a very few months disseminated throughout the world. Knowledge of a new infective organism will be disseminated in a matter of a few weeks; a new antibiotic discovered in England will be known in America, on the Continent, and in the Middle East almost as soon as it is discovered. New therapeutic measures evolved in a background study in pure science, which may have required years of arduous work, will be liberated for popular usage almost as soon as their effects are known. This rapid

dissemination of new ideas, techniques, and discoveries which result from scientific research and technological development is essentially automatic, unless prevented by restrictions imposed by governments. In a free world, science is universal.

The internationalism of science and technology cannot but lead to a happier relationship with our friends abroad who have given us so much and to whom we owe such a great responsibility. The Middle East contributed to our beginnings and the European continent contributed to the founding of many of the institutions that we have now in operation. Present-day science owes much to this background and assumes its responsibility for the creation of a greater knowledge of international content and its importance in the world today.

SCIENCE NEWS

ACADEMY-COUNCIL LECTURE SERIES

The afternoon lecture series inaugurated by President Bronk in the fall of 1951 has rapidly become one of the highly regarded scientific programs in the Washington area. Lectures in this series are open to the scientific public and in each case are followed by an informal tea at which members of the audience are invited to meet the speaker and to visit with fellow scientists.

Since the last issue of NEWS REPORT went to press the following lectures have been presented:

February 11, "Chemical Specificity of Biological Interactions," by Edwin V. Cohn, James L. Tullis, and Douglas M. Surgenor, Harvard University Laboratory of Physical Chemistry related to Medicine and Public Health.

March 19, "The Nature of Memory," by John Z. Young, Professor of Anatomy, University College, London.

April 1, "Synthetic Polyelectrolytes as Soil Conditioners," by Charles Allen Thomas, President, Monsanto Chemical Company.

ROSTER OF AFFILIATED SOCIETIES

A list of societies affiliated with the National Research Council, together with the names and addresses of officers, and the dates of society meetings in 1952 has been compiled by the Academy-Council Librarian. This list is primarily for the use of the staff of the Academy-Council and officers of affiliated societies, but copies are available on request to the Publications Office as long as the supply lasts.

FELLOWSHIP COMMITTEE FOR THE PHYSICAL SCIENCES

The following members of the Division of Physical Sciences form a postdoctoral fellowship committee for fields within the purview of the Division: R. Clifton Gibbs, Chairman of the Division; Jason J. Nassau, Case Institute of Technology; Alfred O. Nier, University of Minnesota; Ralph A. Sawyer, University of Michigan; Merle A. Tuve, Carnegie Institution of Washington; Ralph W. G. Wyckoff, National Institutes of Health. Dr. Gibbs is the Chairman of the new committee.

ANNUAL MEETING NATIONAL ACADEMY OF SCIENCES

The 89th Annual Meeting of the National Academy of Sciences will be held at the Academy building in Washington, April 28-30. President Bronk has announced that Edgar Douglas Adrian, President of The Royal Society of London and Master of Trinity College, Cambridge, England, will be the guest of the Academy during the three-day meeting. Dr. Adrian will address members of the Academy and their guests at the annual dinner Tuesday evening.

In addition to the annual business meeting to be held on Tuesday, April 29, at which new members and foreign associates will be elected, there will be sessions for the presentation of scientific papers. These sessions, scheduled for Monday, April 28, and Wednesday, April 30, will be open to the public.

On Monday evening at a special ceremony, the Academy will award the following four gold medals in recognition of outstanding contributions to science:

The **Alexander Agassiz Medal**, established in 1911 by Sir John Murray for original contributions to the science of oceanography, to Harry Aaron Manner of the U. S. Coast and Geodetic Survey for his distinguished work on tidal surveys.

The **Daniel Giraud Elliot Medal**, awarded annually for meritorious work in zoology or paleontology, to Henry Bryant Bigelow, a member of the Academy since 1931, for his contributions to marine zoology and particularly for his part as senior author of *Fishes of the Western North Atlantic, Part 1*, published in 1948.

The **James Craig Watson Medal** to Herbert Rollo Morgan in recognition of his distinguished contributions to fundamental astronomy.

The **Henry Draper Medal** to Bernard Lyot of the Meudon Observatory, Paris, foreign associate of the Academy since 1949, who devised the coronagraph which makes possible continuous observation of the inner solar corona on all clear days at any suitable location.

PHOTOSYNTHESIS SYMPOSIUM

A three-day Symposium on Photosynthesis will be held at the Academy-Council in the fall of 1952. The chief topics under discussion will be the photochemistry of chlorophyll and the physical, chemical, and biochemical investigations on energy-transferring mechanisms during photosynthesis. Details of the program will be announced later.

Plans for the Symposium are being prepared by an *ad hoc* committee sponsored by the Photobiology Committee of the Division of Biology and Agriculture. Members of the Committee are: Sterling B. Hendricks, U. S. Department of Agriculture, *Chairman*; N. E. Tolbert, Atomic Energy Commission, *Secretary*; M. Calvin, University of California; R. Emerson, University of Illinois; H. Gaffron, University of Chicago; and S. French, Carnegie Institution, Palo Alto.

SCIENCE ATTACHES

The Department of State has announced the appointment of Jeffries Wyman and Leonard J. Eyges as science attachés to the American Embassy in Paris. These appointments follow the assignment last summer of science attachés to the United States missions in London, Stockholm, and Bern. Appointments of scientists to other missions abroad are expected to be made in the future.

Dr. Wyman, until recently director of the biological laboratory at Harvard University, has traveled and studied abroad and has contributed to biological studies at the Woods Hole Oceanographic Institution. Dr. Eyges, a physicist, also has studied abroad and until recently was engaged in research and teaching at the University of California.

HIGHWAY SAFETY RESEARCH

The Committee on Highway Safety Research established by the Academy-Council in August of last year met on January 19 to review progress made under a contract with the U. S. Bureau of Public Roads. E. R. Hilgard, Dean of the Graduate School of Stanford University and Chairman of the Committee, presided at the meeting.

The Committee recommended that its activities be expanded conservatively during the remainder of the year and continued at the expanded level in 1953. It expressed the hope that T. W. Forbes, now serving as Executive Secretary of the Committee, would be able to continue in this capacity. Dr. Forbes is currently on leave of absence from the University of Hawaii.

If present plans go through, the Committee will submit a brief summary of research in highway safety to experts in traffic fields for comment and criticism and then hold a research correlation conference sometime late in the spring. This conference will be asked to draft plans for research on highway safety problems.

CENTENNIAL OF ENGINEERING

The hundredth anniversary of the founding of the American Society of Civil Engineers, the oldest engineering society in the United States, will be celebrated this year by a series of local and regional observances throughout the country and an international gathering and exposition in Chicago early in September.

The "Century of Engineered Progress," as the centennial celebration is called, has three major aims directed principally to the general public and to foreign visitors: 1) to make known the contributions of engineers to national progress; 2) to give a clear picture of the role played by industry, with its mass production and distribution, so essential to our high standard of living; 3) to demonstrate that an atmosphere of freedom and competition, with competent engineering and management in industry, is essential to maintain and increase the prosperity of the nation.

Among the forty or more organizations planning to take part in the centennial program are the five American engineering societies which are represented on Engineers Joint Council. These societies, listed below, together with the officers of the Museum of Science and Industry in Chicago, will assume the major responsibility for organizing and conducting the centennial program: American Society of Civil Engineers, American Institute of Mining and Metallurgical Engineers, American Society of Mechanical Engineers, American Institute of Electrical Engineers, and American Institute of Chemical Engineers.

Although plans for the centennial celebration are not complete, information on most phases of the program may be obtained from the Centennial of Engineering, 1952, Inc., Museum of Science and Industry, Chicago, Ill.

HIGHWAY RESEARCH BOARD ROAD TESTS

The Highway Research Board is taking an active part in seeking a solution to the critical truck-weight-pavement-design problem which is today facing the state highway departments and the highway transportation industry.

The highways built several years ago were designed in anticipation of increased truck loads and increased volume of traffic and were expected to last twenty or thirty years. However, since the start of the last war, the volume of traffic and weight of trucks has far exceeded anticipated increases, and, consequently, a very large percentage of our primary highway system is deteriorating at an alarming rate. Prior to the war about forty percent of highway funds were spent for maintenance; now the rate is nearly sixty percent. Unless drastic steps are taken to reduce the loads carried by these highways and to increase the load-carrying capacity of existing and future highways, our future highway dollars will all go toward maintenance, and badly needed new facilities will not be built.

In an attempt to determine the actual load-carrying capacity of our existing highway system and establish practical criteria for design of new highways and practical limits of truck axle loads, the Highway Research Board accepted the responsibility of conducting two large-scale road tests.

The first, known as Road Test One-MD, was a test in southern Maryland of a concrete pavement typical of a large mileage in our primary road system. Traffic testing on this project was completed over a year ago and exhaustive soil studies and strain analyses have been made. The final report of the findings will be released in the near future.

The second test, known as the WASHO Road Test, is sponsored by western state highway departments, the Bureau of Public Roads, and various members of the transportation industry. A new section of divided highway will be built on a relocation of U. S. Route 191 about halfway between Pocatello, Idaho, and Ogden, Utah, just north of the Idaho-Utah boundary. The road will be built in a valley on uniform silt subgrade. Excellent granu-

lar material for base and surface courses is available from nearby areas. The test sections consist of two pairs of 1,900-ft. tangents connected by superelevated turn-arounds. Five different thicknesses of flexible-type pavement will be tested in each of the tangents. Eight test vehicles will be operated in such a way that the relative effects of 18,000-lb. and 22,400-lb. single-axle loads and 32,000-lb. and 40,000-lb. tandem-axle loads on each of the various pavement designs can be compared. It is expected that construction will be completed this summer and that test traffic can be operated for two or three months until severe winter weather makes further testing impracticable. Testing will be started again in the spring of 1953 and continue until a total of six months of operation has been completed.

CONFERENCE ON CONDENSATION CONTROL

Over 180 people attended the Building Research Advisory Board's Conference on Condensation Control in Buildings as related to Paints, Papers, and Insulating Materials, which was held at the Academy-Council building February 26 and 27. Government, industry, educational institutions, trade associations, and research organizations were represented.

On the first day invited speakers delineated the research progress in paints, paper and foil films, insulating materials, and construction methods. These talks were followed by a discussion and question period.

The final two sessions on the second day were devoted to panel discussions, a technologists' panel considering the subject of research still needed and an industrial panel discussing methods of disseminating technical knowledge.

The Conference members recognized that there was still much research to be done in the field of condensation control and suggested that the Building Research Advisory Board appoint a committee to determine ways and means of exploring this problem further and of correlating the interests and research efforts of the many industries involved.

PLANT AND CROP ECOLOGY

The Division of Biology and Agriculture has recently organized a Committee on Plant and Crop Ecology to deal with both military and long-range peacetime applications. The work of the Committee will be supported by a contract with the Office of Naval Research.

The Committee plans to coordinate research activities in several areas of plant ecology, and to this end the following subcommittees have been designated: Aerobiology, Agroclimatology, Conservation, Crop Geography and Vegetation Analysis, Plant Crop Yields, and Plant Diseases and Pests. The present Academy-Council Committees on Aerobiology and Conservation will be discontinued as of June 30 and their functions assumed by the new subcommittees.

The following have been appointed to serve on the parent Committee: Ralph E. Cleland, University of Indiana, *Chairman*; H. A. Rodenhiser, U. S. Department of Agriculture, *Vice-Chairman*; Richard Bradfield, Cornell University; Leslie A. Chambers, U. S. Public Health Service; Karl H. Klages, University of Idaho; C. F. Korstian, Duke University; Julian G. Leach, University of West Virginia; Paul B. Sears, Yale University; E. C. Stakman, University of Minnesota; Frank C. Whitmore, U. S. Geological Survey. Everett F. Davis, formerly of the Office of Naval Research, has been appointed Executive Secretary.

The Committee has as its immediate objective a survey of the current government-supported research contracts in those areas represented by the several subcommittees. Following completion of this survey, a full-time program for the coordination of research in selected areas will be undertaken.

The first meeting of the Committee was held at the Academy-Council on February 24. At the morning session, which was reserved for organizational matters, the following subcommittee chairmen were selected: E. C. Stakman, Aerobiology; H. E. Landsberg, Agroclimatology; Paul B. Sears, Conservation; Karl H. Klages, Crop Geography and Vegetation Analysis; Richard Bradfield, Plant Crop Yields; Julian G. Leach, Plant Diseases and Pests.

At the afternoon session, attended by twenty-four observers from different government agencies, the purposes of the Committee were outlined and plans of operation discussed. Considerable interest was manifested in the program by the representatives in attendance. This interest, together with the type of cooperation already received during the organizational period from so many of the government offices, is believed to indicate a keen desire on the part of scientists to work out the means for over-all coordination in important fields of research vitally affecting the national welfare.

ARCTIC INSTITUTE OF NORTH AMERICA

The appointment of Rear Admiral Leo Otis Colbert as Director of the Washington office of the Arctic Institute of North America was announced on February 6 by R. C. Wallace, Executive Director of the Institute. Admiral Colbert, who recently retired as Director of the United States Coast and Geodetic Survey after more than forty years of service with that agency, assumed his new duties on March 1. He replaces A. Lincoln Washburn, who resigned the directorship to accept an important post in the Snow, Ice, and Permafrost Research Establishment of the U. S. Army Corps of Engineers.

The Institute, which maintains offices in Montreal, New York, and Washington, is affiliated with the National Academy of Sciences-National Research Council. It is dedicated to the advancement and coordination of scientific research in the North American Arctic and Subarctic. Since its founding in 1945, it has sponsored nearly ninety field research projects in the northern reaches of the continent.

NEW MEMBERS OF DIVISION OF PHYSICAL SCIENCES

Otto Struve, Chairman of the Department of Astronomy at the University of California in Berkeley, has been appointed a member of the Division of Physical Sciences. He will serve as a representative from the Astronomy Section of the National Academy of Sciences.

The following representatives from four U. S. Government agencies have been appointed liaison members in the Division: Allen V. Astin, Acting Director, National Bureau of Standards; Paul E. Klopsteg, Assistant Director for Mathematical, Physical, and Engineering Sciences, National Science Foundation; Thomas H. Johnson, Director of Research, Atomic Energy Commission; J. Wallace Joyce, Deputy Science Adviser, Department of State.

NEW REVIEW PUBLICATION IN NUCLEAR SCIENCE

An agreement covering the publication of the *Annual Review of Nuclear Science* has been completed between Annual Reviews, Inc. and the National Academy of Sciences-National Research Council. Volume I, prepared under the editorial supervision of the Committee on Nuclear Science of the Academy-Council and containing twenty-six reviews under the authorship of distinguished leaders in the field, will come off the press in April.

Annual Reviews, Inc. is a nonprofit corporation which has devoted itself, since 1931, to the yearly publication of critical reviews designed to cover systematically the current literature in certain major fields of science. The series was initiated with the *Annual Review of Biochemistry*, followed by the *Annual Review of Physiology* in 1939, the *Annual Review of Microbiology* in 1947, and four other *Annual Reviews* in psychology, medicine, plant physiology, and physical chemistry in 1950.

James G. Beckerly of the Atomic Energy Commission will serve as editor of future volumes of the *Annual Review of Nuclear Science*. He will be assisted by the following associate editors: Donald F. Mastic, Atomic Energy Commission; Martin D. Kamen, Washington University; and Leonard I. Schiff, Stanford University. The Editorial Committee consists initially of the following: C. D. Coryell, Massachusetts Institute of Technology; L. F. Curtiss, National Bureau of Standards; L. I. Schiff, Stanford University; E. Segre, University of Illinois; and R. E. Zirkle, University of Chicago.

STANDARD TUMOR NOMENCLATURE

The Committee on Tumor Nomenclature of the International Cancer Research Commission is seeking to establish uniformity in tumor nomenclature and coding in order to promote international exchange of experience in tumor research. It has approved the histogenic and malignancy tumor codes in the *Manual of Tumor Nomenclature and Coding* of the American Cancer Society. This code, which is the basis of the "New Growth" section in the 1952 edition of the American Medical Association's *Standard Nomenclature of Diseases*, has been modi-

fied to apply to experimental tumors in the C-B-C codes and is now being studied by consultants throughout the world for adaptation in their countries and as a basis of study for a supplemental histogenic and malignancy code for the "International Statistical Classification."

A provisional draft of a basic code for the "Clinical Stages of Cancer" and its application to accessible sites has been prepared. The members of the Committee have requested the advice of specialists on the codes as they pertain to the sites in their fields of specialization.

SCIENTIFIC MANPOWER

SELECTIVE SERVICE AND THE MANPOWER SHORTAGE

There seems to be every likelihood that the vexing problem of a national policy regarding scientific and technical personnel will begin to sharpen before the middle of summer. The expected increase in draft calls for the spring months of this year has failed to materialize, largely because of changes in the manpower goals of the Armed Services and because the date on which these peak goals are to be reached has been set ahead.

However, the rate at which military personnel will be discharged will rapidly increase after July 1, making it necessary to increase the rate of induction and replacements, and present predictions are that draft calls will rise late in the summer. This seems likely to affect not only the Selective Service situation, but also to influence the rate of recall of reservists, both those who are in the reserves because of previous service and those who have not seen service but are enrolled in reserve components.

In the meantime, there is every indication that the disparity between supply and demand for scientists and engineers will become more and more critical. A number of activities in research and development soon will require increased personnel, nota-

bly in Air Force installations and in projects of the Atomic Energy Commission. Already severe shortages exist in many categories and the number of engineering graduates in 1952 will be considerably below that in 1951. Furthermore, the percentage of those graduates who are in reserve status is apparently considerably greater than in 1951.

The recruitment efforts on college campuses have not been notably successful. There is evidence that in some cases engineers and scientists about to graduate are not seriously considering employment because of doubt as to their military status. Even though salary offers in industry are approximately \$50 per month higher than a year ago, many of these young men are considering offers of direct commissions in the Armed Services. This situation is causing real concern in those divisions of the military establishment which must contract for equipment and for its installation.

Because of these circumstances it may be possible to secure concerted action regarding the establishment of a consistent national policy for the proper utilization of technically qualified personnel. Meanwhile, the policies now in force in Selective Service appear likely to continue. In general, those students who are maintaining good records will probably be continued in deferment during the next academic year.

FELLOWSHIP PROGRAMS

LECTURING AND RESEARCH AWARDS UNDER THE FULBRIGHT ACT

The Committee on International Exchange of Persons of the Conference Board of Associated Research Councils is now accepting applications for awards under the Fulbright Act for university lecturing and advanced research for the academic year 1953-54 in Australia, New Zealand, the Philippines, Burma, Thailand, India, Pakistan, and Japan. Virtually every country program includes openings in the natural sciences.

Details regarding the specific opportunities available in each country are given in a printed announcement which can be obtained from the Committee on International Exchange of Persons, 2101 Constitution Avenue, Washington 25, D. C. The announcement also contains information concerning approximately forty awards offered under the initial programs for Denmark, Iraq, and Japan. These awards are available for the academic year beginning September, 1952.

Applications are also invited for approximately twelve awards still available for lecturing in Pakistan during the academic year beginning October, 1952. Applications for the Pakistan program and for the interim programs for Denmark, Japan, and Iraq should be submitted as early as possible in view of the short period of time available for the selection of grantees.

Awards are ordinarily made for one academic year, although in exceptional circumstances applications will be considered for periods of not less than six months. Awards for teaching or research usually include round-trip transportation for the grantee, a maintenance allowance, including certain allowances for dependents, and a small supplemental allowance for travel and equipment purchasable abroad. Grants

are made in the currency of the country to which the grantee is going and are not convertible into dollars.

Grantees in the lecturing category are subject to federal income tax on the proceeds of the award. It is hoped that small supplemental grants in dollars will continue to be available from other funds appropriated for the Government exchange programs to aid visiting lecturers to meet their dollar requirements.

Applicants for visiting lectureships should have teaching experience in an institution of higher learning in the United States. Applicants for research awards are expected to have the doctor's degree or equivalent professional standing. All applicants must be citizens of the United States.

REVIEW OF APPLICATIONS FOR 1952-53 FULBRIGHT AWARDS

The Committee on International Exchange of Persons of the Conference Board of Associated Research Councils has received and reviewed over 1,600 applications for awards under the 1952-53 Fulbright Program for the United Kingdom, France, Austria, Norway, the Netherlands, Belgium and Luxembourg, Italy, Greece, Egypt, Turkey, and Iran. Competition for these awards, approximately 250 in number, closed on October 15, 1951.

The initial screening of the applications was carried out by forty advisory committees composed of approximately 250 specialists representing all fields of learning. The screening committees in the natural sciences were selected by the National Research Council. The final selection of candidates will be made by the Board of Foreign Scholarships, which is composed of leading educators appointed by the President of the United States. It is expected that the results of the competition will be announced in April or May.

AFFILIATED SOCIETIES

The following schedule of meetings of Societies affiliated with the National Research Council was prepared by the Librarian of the Academy-Council from information supplied by the Societies. For details regarding a specific meeting, please write directly to the Society Secretary.

January			
9-11	American Society of Photogrammetry, <i>Washington, D. C.</i>	11-14	American Society of Ichthyologists and Herpetologists, <i>Austin and Rockport, Tex.</i>
10	American Genetic Association, <i>Washington, D. C.</i>	14-18	American Institute of Nutrition, <i>New York City</i>
14	American Institute of Consulting Engineers, <i>New York City</i>	14-18	American Physiological Society, <i>New York City</i>
14-18	Society of Automotive Engineers, <i>Detroit, Mich.</i>	14-18	American Society of Biological Chemists, <i>New York City</i>
21-25	American Institute of Electrical Engineers, <i>New York City</i>	14-18	American Society for Experimental Pathology, <i>New York City</i>
28-30	American Society of Heating and Ventilating Engineers, <i>St. Louis, Mo.</i>	14-18	American Society for Pharmacology and Experimental Therapeutics, <i>New York City</i>
28-Feb. 1	Institute of the Aeronautical Sciences, <i>New York City</i>	14-18	American Society of Mammalogists, <i>Charleston, S. C.</i>
29-31	American Meteorological Society, <i>New York City</i>	16-18	American Surgical Association, <i>White Sulphur Springs, W. Va.</i>
31-Feb. 2	American Physical Society, <i>New York City</i>	21-29	American College of Physicians, <i>Cleveland, Ohio</i>
February		27-May 1	Society of American Bacteriologists, <i>Boston, Mass.</i>
18-21	American Institute of Mining and Metallurgical Engineers, <i>New York City</i>	27-May 1	American Ceramic Society, <i>Pittsburgh, Pa.</i>
March		May	
3-6	Institute of Radio Engineers, <i>New York City</i>	1-3	American Physical Society, <i>Washington, D. C.</i>
4	American Geographical Society, <i>New York City</i>	4-8	Electrochemical Society, <i>Philadelphia, Pa.</i>
19-21	American Association of Anatomists, <i>Providence, R. I.</i>	5	American Society for Clinical Investigation, <i>Atlantic City, N. J.</i>
20-22	American Physical Society, <i>Columbus, Ohio</i>	5-7	American Geophysical Union, <i>Washington, D. C.</i>
23-27	Society of Exploration Geophysicists, <i>Los Angeles, Calif.</i>	5-7	Industrial Research Institute, <i>Sky Top, Pa.</i>
23-27	American Chemical Society, <i>Buffalo, N. Y.</i>	6-7	Association of American Physicians, <i>Atlantic City, N. J.</i>
24-27	American Association of Petroleum Geologists, <i>Los Angeles, Calif.</i>	8-10	Acoustical Society of America, <i>New York City</i>
24-27	Society of Economic Paleontologists and Mineralogists, <i>Los Angeles, Calif.</i>	8-10	American Neurological Association, <i>Atlantic City, N. J.</i>
30-Apr. 3	American Chemical Society, <i>Milwaukee, Wis.</i>	10-16	American Psychiatric Association, <i>Atlantic City, N. J.</i>
April		21-22	American Iron and Steel Institute, <i>New York City</i>
10-12	American Association of Pathologists and Bacteriologists, <i>New York City</i>	29-30	Society of Exploration Geophysicists (Regional Meeting), <i>Houston, Tex.</i>
11-12	Seismological Society of America, <i>Tucson, Ariz.</i>	June	
		1-4	American Society of Refrigerating Engineers, <i>Atlanta, Ga.</i>
		9-13	American Medical Association, <i>Chicago, Ill.</i>

11-13	American Congress on Surveying and Mapping, <i>Washington, D. C.</i>	October	
16-20	American Crystallographic Association, <i>Tamiment, Pa.</i>	9-11	Optical Society of America, <i>Boston, Mass.</i>
23-26	American Veterinary Medical Association, <i>Atlantic City, N. J.</i>	13	American Society of Civil Engineers, <i>New York City</i>
23-27	American Society for Testing Materials, <i>New York City</i>	13-17	American Institute of Electrical Engineers (Fall General Meeting), <i>New Orleans, La.</i>
23-27	American Society for Engineering Education, <i>Hanover, N. H.</i>	16	Engineering Foundation, <i>New York City</i>
23-27	American Institute of Electrical Engineers (Summer Meeting), <i>Minneapolis-St. Paul, Minn.</i>	20-23	American Academy of Pediatrics, <i>Chicago, Ill.</i>
30-July 3	American Physical Society, <i>Denver, Colo.</i>	20-24	American Society for Metals, <i>Philadelphia, Pa.</i>
24-29	American Dairy Science Association, <i>Davis, Calif.</i>	20-24	American Welding Society, <i>Philadelphia, Pa.</i>
25-28	American Astronomical Society, <i>Victoria, B. C.</i>	November	
25-29	Society for the Study of Development and Growth, <i>Williamstown, Mass.</i>		American Academy of Tropical Medicine, <i>Galveston, Tex.</i>
August			Mineralogical Society of America, <i>Boston, Mass.</i>
	Poultry Science Association, <i>Storrs, Conn.</i>	12-15	Paleontological Society, <i>Boston, Mass.</i>
6-7	Association of American Geographers, <i>Washington, D. C.</i>	12-15	Society of Naval Architects and Marine Engineers, <i>New York City</i>
19-22	American Institute of Electrical Engineers (Pacific General Meeting), <i>Phoenix, Ariz.</i>	13-14	Society of Exploration Geophysicists (Annual Midwestern Meeting), <i>Fort Worth, Tex.</i>
September		13-15	Geological Society of America, <i>Boston, Mass.</i>
1-2	Mathematical Association of America, <i>East Lansing, Mich.</i>	13-15	American Society of Tropical Medicine and Hygiene, <i>Galveston, Tex.</i>
1-6	American Psychological Association, <i>Washington, D. C.</i>	13-15	Society of Vertebrate Paleontology, <i>Boston, Mass.</i>
8-10	American Society of Parasitologists, <i>Ithaca, N. Y.</i>	17-20	Society of American Foresters, <i>Montreal, Canada</i>
8-10	American Society for Horticultural Science, <i>Ithaca, N. Y.</i>	17-21	Soil Science Society of America, <i>Cincinnati, Ohio</i>
8-10	American Society of Zoologists, <i>Ithaca, N. Y.</i>	17-21	American Society of Agronomy, <i>Cincinnati, Ohio</i>
8-10	Botanical Society of America, <i>Ithaca, N. Y.</i>	28-29	American Society of Animal Production, <i>Chicago, Ill.</i>
8-10	American Society of Plant Physiologists, <i>Ithaca, N. Y.</i>	30-Dec. 5	American Society of Mechanical Engineers, <i>New York City</i>
8-10	Eastern North American Region Biometric Society, <i>Ithaca, N. Y.</i>	30-Dec. 3	American Society of Refrigerating Engineers, <i>New York City</i>
8-10	Mycological Society of America, <i>Ithaca, N. Y.</i>	December	
8-10	Ecological Society of America, <i>Ithaca, N. Y.</i>		American Society of Limnology and Oceanography, <i>Ithaca, N. Y.</i>
8-10	Genetic Society of America, <i>Ithaca, N. Y.</i>	7-10	American Institute of Chemical Engineers, <i>Cleveland, Ohio</i>
8-11	American Dental Association, <i>St. Louis, Mo.</i>	8-11	Entomological Society of America, <i>Philadelphia, Pa.</i>
8-11	Institute of Traffic Engineers, <i>Chicago, Ill.</i>	26-29	Institute of Mathematical Statistics, <i>Chicago, Ill.</i>
8-12	Illuminating Engineering Society, <i>Chicago, Ill.</i>	26-31	American Association for the Advancement of Science, <i>St. Louis, Mo.</i>
9-12	American Phytopathological Society, <i>Ithaca, N. Y.</i>	27-29	American Mathematical Society, <i>St. Louis, Mo.</i>
22-26	American College of Surgeons, <i>New York City</i>	28-30	American Anthropological Association, <i>Philadelphia, Pa.</i>
23-26	American Roentgen Ray Society, <i>Houston, Tex.</i>	30	Mathematical Association of America, <i>St. Louis, Mo.</i>
		Last week	Econometric Society, <i>Chicago, Ill.</i>

INTERNATIONAL RELATIONS

SCIENCE AND ENGINEERING IN UNESCO

"The Citizen and the United Nations" was the theme of the third national conference of the United States National Commission for UNESCO, held at Hunter College in New York City, January 27-31, 1952. The conference was attended by approximately 2,000 delegates from national organizations and local groups in all parts of the country representing the fields of education, the natural and social sciences, cultural activities, and such means of communication as the press, films, radio, and television.

Of particular interest to the readers of NEWS REPORT will be the deliberations of Work Group 9 on "The Opportunities for Scientists and Engineers to Contribute to Peace through the United Nations System." John S. Nicholas, of the Osborn Zoological Laboratory, Yale University, and a member of the Academy-Council Committee on UNESCO, served as chairman of the Work Group. His remarks concerning the international character of the natural and engineering sciences are reported elsewhere in this issue.

Maurice Visscher, who is Chairman of the Academy-Council Committee on UNESCO, served as discussion leader for the Work Group. He was assisted by the following members of his Committee: Bart J. Bok, Harvard University; Ralph Goetzenberger, Engineers Joint Council; E. C. Stakman, University of Minnesota; Gene Weltfish, Columbia University; and Raymund Zwemer, Library of Congress. In opening the discussion, Dr. Visscher called attention to the numerous ways in which pure and applied science can and should contribute to the construction of a stable peace through the mechanisms provided by the United Nations and its specialized agencies. Dr. Bok spoke on the international nature and importance of the United Nations research laboratories and observatories.

The report of Work Group 9 consisted of twelve conclusions and recommendations and a supplementary statement prepared by the Engineers Joint Council outlining the various ways in which the resources and abilities of the engineering profession should be utilized in furthering the objectives of UNESCO. The major conclusions and recommendations covered by the report are contained in the following paragraphs:

1) Science and technology are by custom and historical tradition international co-operative enterprises. The results of scientific study are of immediate or potential value to all nations. The promotion of science for its own sake is not the prime objective of UNESCO; however, the chartered objective of UNESCO cannot be achieved without encouraging or promoting both basic and applied science as a means to the ultimate end.

2) The grant-in-aid program of UNESCO has proved effective in facilitating international cooperation of scientists and engineers. This program should be continually evaluated in order to insure that a proper balance is struck between basic and applied science as regards magnitude of support within a limited UNESCO budget. Assistance to medical and engineering sciences must be brought up to the level of support for the more basic sciences, and attention should be given to the promotion of international cooperation in the agricultural sciences. These additional activities should be supported without diminution in subsidy to the basic sciences.

3) UNESCO should be encouraged to support research which will improve the living conditions of mankind, i.e., improved food production; better utilization of minerals, metals, and other natural resources; wider use of technical skills and improvements in public health. The Arid Zone Research Council was cited as a model for activities in major area problems, and it was recommended that a research council

be formed to consider the mineral resources problem on a world basis.

4) The services of the engineering profession have not been adequately utilized in the program of UNESCO. It was urged that the Engineers Joint Council be invited to submit proposals with a view to fostering closer cooperation in future activities of UNESCO.

5) It was noted that the U. S. National Commission had not followed through with the recommendations of the conference on science abstracting which called for setting up of working groups within this country for the abstracting and indexing of scientific literature. Further intensive study of the problems involved in effective abstracting and indexing, including consideration of possible new techniques, was recommended.

6) The Work Group heartily endorsed the interdisciplinary conferences sponsored by UNESCO and recommended that more such conferences be supported. It was pointed out that these conferences served the important end of bridging the gulfs and eliminating the prejudices between scientific disciplines which have led to overdepartmentalization in academic research bodies and have seriously retarded the advance of scientific knowledge.

SCIENTIFIC UNIONS

UICC

At the request of the American Association for Cancer Research, the American Cancer Society, and the U. S. Public Health Service, the Academy-Council has established a National Committee of the International Union against Cancer. This Committee has been assigned for administrative purposes to the Division of International Relations of the National Research Council. It will, however, maintain close liaison with the Division of Medical Sciences.

The responsibilities of the National Committee are in general: 1) to select and instruct representatives to meetings of the International Union and its Scientific Commission; 2) to devise means for support of its activities; 3) to establish an office for the receipt, transmission, and distribution

of information; 4) to approve groups from the United States that may apply for membership in the Union.

William Gardner, Yale University School of Medicine, has been appointed Chairman of the Committee. Other members are: Charles S. Cameron, American Cancer Society, Inc.; E. V. Cowdry, Barnard Free Skin and Cancer Hospital; J. R. Heller, National Cancer Institute; and Paul E. Steiner, University of Chicago.

IGU

The Honorable Hans W:son Ahlmann, Swedish Ambassador to Norway and internationally known glaciologist, will deliver the third annual Isaiah Bowman Memorial Lecture at the XVIIth International Geographical Congress which will convene in Washington, August 8-15.

Prior to undertaking his present diplomatic duties, Dr. Ahlmann attained worldwide distinction for his scientific research in the Arctic and for his contributions to the knowledge of climatic fluctuations. In recognition of his scientific achievements, Dr. Ahlmann was elected to membership in the Royal Academies of Science of Denmark, Norway, and Sweden and was awarded gold medals by the Royal Danish Geographical Society, the Royal Geographical Society of Great Britain, the Royal Swedish Geographical Society, and the American Geographical Society. For a number of years he served as professor of geography and Director of the Geographical Institute at the University of Stockholm.

The Bowman Memorial Lectures were established in May, 1950 by Archer M. Huntington in memory of the late Isaiah Bowman, who served as Director of the American Geographical Society from 1915 to 1935 and as President of The Johns Hopkins University from 1935 to 1948. It is particularly appropriate that one of these lectures be delivered at the International Geographical Congress because Dr. Bowman participated in many previous congresses and at one time was President of the International Geographical Union. The lecture also provides a fitting tribute to the American Geographical Society which celebrates its hundredth anniversary this year.

IUCr

The following scientists have been selected to serve on the U.S.A. National Committee for Crystallography, each for a three-year term ending December 31, 1954: Paul P. Ewald, Polytechnic Institute of Brooklyn; Edward W. Hughes, California Institute of Technology; John S. Kasper, General Electric Company; Rose C. L. Mooney, Newcomb College, Tulane University; William Parrish, Phillips Laboratory, Inc.; and William H. Zachariasen, University of Chicago.

Officers of the National Committee for 1952 are: L. O. Brockway, University of Michigan, *Chairman*; B. E. Warren, Massachusetts Institute of Technology, *Vice-Chairman*; and Elizabeth A. Wood, Bell Telephone Laboratories, *Secretary-Treasurer*.

IUPAP

In accordance with the terms of a constitution adopted last year, the membership of the U.S.A. National Committee of the International Union of Pure and Applied Physics has been reconstituted as follows: John C. Slater, Massachusetts Institute of Technology, and John A. Wheeler, Princeton University (Vice-Presidents of the Union); Stanley S. Ballard, Tufts College (Chairman, U.S.A. National Committee of the International Commission on Optics); R. Clifton Gibbs, National Research Council (Division of Physical Sciences); Harald H. Nielsen, Ohio State University, and Karl K. Darrow, Bell Telephone Laboratories (representatives, American Physical Society); Franzo H. Crawford, Williams College (representative, American Association of Physics Teachers); Henry A. Barton, American Institute of Physics; Richard H. Bolt, Massachusetts Institute of Technology (representative, Acoustical Society of America); Robert B. Brode, University of California, and William V. Houston, Rice Institute (appointees-at-large).

The officers elected for the period ending December 31, 1952 are: John C. Slater, *Chairman*; Robert B. Brode, *Vice-Chairman*; and Henry A. Barton, *Secretary-Treasurer*.

IMU

The United States was officially represented at the First General Assembly of the International Mathematical Union, held in Rome, Italy, March 6-8, by the following delegates appointed by the Department of State: Marshall H. Stone, University of Chicago, *Chairman*; Einar Hille, Yale University; John R. Kline, University of Pennsylvania; Saunders MacLane, University of Chicago; and Gordon T. Whyburn, University of Virginia. Nathan Jacobson, Yale University, and W. R. Transue, Kenyon College, served as alternate delegates.

SIXTH INTERNATIONAL HYDROGRAPHIC CONFERENCE

The Department of State has announced the appointment of the following two delegates to the Sixth International Hydrographic Conference to be held at Monaco, beginning April 29: Captain Earl O. Heaton, Coast and Geodetic Survey, and Captain George F. Kennedy, Navy Hydrographic Office. The technical advisers to the delegation will be H. R. Edmonston of the Coast and Geodetic Survey and Guillermo Medina and William G. Watt, both of the Navy Hydrographic Office.

BATTELLE INTERNATIONAL

The Battelle Institute of Columbus, Ohio, has announced the establishment of a European division to be known as Battelle International. John S. Crout, for many years assistant director of the Institute, has been appointed Executive Director. Headquarters have been opened at 3 rue du Mont Blanc, Geneva, Switzerland.

The new division has been established as a nonprofit organization to serve the European economy through science and technology. It currently is sponsoring fellowships in research institutes of Europe and in European universities and technical schools. Eventually it will operate its own laboratories on the Continent. Research will be conducted in the fields of applied chemistry and physics, metallurgy, fuels, ceramics, electronics, theoretical and applied mechanics, and in the engineering and agricultural sciences.

INTERNATIONAL SYMPOSIUM ON ANTHROPOLOGY

The Wenner-Gren Foundation for Anthropological Research is sponsoring an international symposium in anthropology at the home of the Foundation in New York City, June 9-20, 1952.

In keeping with the theme of the symposium, "A World Survey of the Status of Anthropology," emphasis will be placed on the achievements of research and on future trends in all aspects of the discipline. Subjects to be discussed will include the gaps in knowledge that require further study and research, new techniques and theoretical approaches for investigation that have been developed, cooperative inter- or multi-disciplinary investigations that have been undertaken, and new textbooks or symposia that have been published. Although discussions will be based on papers prepared

by members of the symposium, these papers will not be read at the sessions. Instead, they will be drafted well in advance of the June meeting and sent to all prospective participants to allow opportunity for study preparatory to discussion at the symposium.

One of the chief products of the symposium, which will be attended by distinguished anthropologists from more than twenty countries, will be a series of publications which will include the following: "An Inventory of Modern Anthropology," consisting of the background papers prepared by symposium participants; "A Synthesis of Modern Anthropology," based upon discussions to take place during the final days of the symposium; and "A Handbook of World Resources for Research in Anthropology," containing information on the resources of all institutions throughout the world which are concerned with anthropology, broadly conceived.

RECORD OF MEETINGS

January		18-19	Committee on Cancer Diagnosis and Therapy, <i>New York City</i>
4	Committee on International Exchange of Persons	19	Committee on Growth
	Subcommittee on Shelter and Clothing		Committee on Highway Safety Research
4-5	Ad Hoc Committee on Stress, <i>Princeton, N. J.</i>	19-20	Astronomy Committee, Advisory to Office of Naval Research
7	Panel on Underwater Acoustics		U.S.A. National Committee, International Geographical Union
	Highway Research Board Advisory Committee for Maryland Road Test	21	Committee on Drug Addiction and Narcotics
8	Advisory Group on Heating	23	Ad Hoc Conference on Typhoid Immunization
9	Committee on Ship Structural Design	25	Conference on National Culture Collection
	Army Medical Service Graduate School		Subcommittee on Oncology
	Committee on Foods	25-26	Committee on Public Health Aspects of Brucellosis, <i>Minneapolis, Minn.</i>
10	Conference on Photosynthesis	28	Committee on Radiation Cataracts
	Advisory Group on Plumbing		Advisory Group on Space and Planning
	Subcommittee on Atmospheric and Industrial Hygiene	29	Substitution and Conservation of Nickel
	Subcommittee on Food Supply		Panel
	Subcommittee on Waste Disposal	30	Advisory Group on Structural Engineering
	Subcommittee on Water Supply		Advisory Group on Hospital Space and Planning
	Titanium Brochure Committee	31	Advisory Group on Heating
11	Committee on Definition and Standards for Foods, <i>New York City</i>		
	Committee on Sanitary Engineering and Environment		
14-18	Highway Research Board		

February

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| 1 | Committee on Developmental Biology
Subcommittee on Biochemistry
Subcommittee on Biology
Subcommittee on Clinical Investigation
Subcommittee on Etiology and Pathology
Committee on Dentistry | 14 | Committee on Radiology
Advisory Group on Hospital Space and Planning |
| 3 | Governing Board of the Academy-Council | 15 | Ad Hoc Coral Atoll Advisory Group, Honolulu, T. H. |
| 4 | Advisory Group on Structural Engineering | 15-16 | Commission on Human Resources and Advanced Training
Committee on Geography, Advisory to Office of Naval Research |
| 4-5 | Highway Research Board Advisory Committee for WASHO Road Test, Ogden, Utah | 19 | Committee on Control of Deterioration |
| 5 | Subcommittee on Cardiovascular Diseases | 20 | Subcommittee on Burns |
| 6 | Advisory Group on Heating, Ventilating, and Air Conditioning
Advisory Group on Building Structures | 21 | Nickel Supplies Panel, New York City
Subcommittee on Dairy, Oil, and Fat Products, Chicago, Ill. |
| 8 | Committee on Naval Medical Research
Executive Committee, Minerals and Metals Advisory Board
Subcommittee on Animal Products, Chicago, Ill. | 22 | Cobalt Supplies Panel, New York City |
| 11 | Honolulu Committee, Honolulu, T. H.
Subcommittee on Tuberculosis | 24 | Committee on Plant and Crop Ecology |
| 12 | Advisory Group on Space and Planning | 26 | Subcommittee on Nervous System |
| 13 | Committee on International Exchange of Persons
Subcommittee on Shock | 26-27 | Building Research Advisory Board Conference on Vapor Transmission Characteristics of Paint and Paper Films
Committee on Packing, Packaging, and Preservation, Chicago, Ill. |
| 13-14 | Invertebrate Consultants Committee for the Pacific, Honolulu, T. H. | 27 | Subcommittee on Blood Coagulation
Committee on Ship Steel and Ship Structure |
| | | 28 | Committee on Fire Resistant Textiles, Philadelphia, Pa. |
| | | | Committee on Psychiatry |
| | | 29 | Committee on Growth
Fellowship Committee, Division of Mathematics
Section on Fellowships, Committee on Growth |

NEW PUBLICATIONS

- Applied Research in the United States.* Report of the National Academy of Sciences-National Research Council to the Mutual Security Agency. Academy-Council Publication No. 210. 1952. 90 p. \$1.00.
- Atoll Research Bulletin.* Pacific Science Board. National Research Council. Nos. 8, 9. December 15, 1951. 29, 14 p.
- Chemical-Biological Coordination Center of the National Research Council.* 1952. 26 p.
- Departments of Geological Science in Educational Institutions of the United States and Canada.* American Geological Institute Report No. 6. Academy-Council Publication No. 204. 1952. 175 p. \$1.00.
- First Report on Alternate Steels-Diesel Engines.* MAB-17-M. National Research Council, December 1951. 13 p.
- First Symposium on Chemical-Biological Correlation.* Academy-Council Publication No. 206. 1952. 420 p. \$1.00.
- Joint, Crack, and Undersealing Materials.* Highway Research Board Bibliography No. 12. National Research Council, 1951. 22 p. \$0.45.
- New Processes for Machining and Grinding.* MMAB-18-M. National Research Council, February 1952. 18 p., 9 appendices.
- Oceanography 1951.* Report of the Committee on Oceanography, National Academy of Sciences. Academy-Council Publication No. 208. 1952. 36, viii p.
- Physical, Biological, Administrative Problems Associated with the Transportation of Radioactive Substances.* Nuclear Science Series, Preliminary Report No. 11. Academy-Council Publication No. 205. 1952. 69 p.
- Proposed Program on Basic Research in Extractive Metallurgy of Titanium.* MAB-12-M. National Research Council, December 1951. 24 p.
- Selection of Military Manpower-A Symposium.* Academy-Council Publication No. 209. 1952. 270 p. \$2.50.
- Third Inter-American Congress on Brucellosis.* Washington, D. C., November 6-10, 1950. National Research Council, 1952. 302 p. Cloth, \$5.00; paper, \$3.25.

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